

Appl. No. 09/608,080
Reply to Office action of 06/04/2003

Page 3

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (withdrawn): A process for the ethoxylation of liquid organic substances with an ethoxylating liquid, said process comprising:

- passing a reactive organic fluid through reaction channels defined by a first side of a plurality of vertically positioned corrugated plates that contain perforations;
- circulating a reactant stream containing ethylene oxide through distribution channels defined by the second side of said vertical positioned plates to indirectly exchange heat with said organic fluid;
- distributing a portion of the reactant stream through the perforations, and contacting the reactant stream with the organic fluid in said reaction channels; and
- recovering a reaction product from said reaction channels.

Claim 2 (withdrawn): The process of claim 1 wherein one of said ethoxylation reactants comprises an alcohol or an alkylphenol.

Claim 3 (currently amended): A reactor for the controlled distribution of reactants comprising:

- a plurality of contacting plates containing perforations or permeable sections stacked adjacent to one another to define reaction channels between the first sides of adjacent plates;
- means for passing a first fluid into the reaction channels;
- a distribution channel located between each reaction channel defined by the second side of the plates for distributing a second fluid through the plates and circulating the second fluid as an indirect heat exchange medium;
- means for supplying said second fluid to the distribution channels; and
- means for collecting a fluid stream containing a reaction product from the reaction channels.

Claim 4 (original): The reactor of claim 3 wherein said plates define corrugations that extend at least partially in a horizontal direction

Claim 5 (original): The reactor of claim 3 wherein the adjacent surfaces of the plates contact each other.

Appl. No. 09/608,080
Reply to Office action of 06/04/2003

Page 4

Claim 6 (original): The reactor of claim 3 wherein the frequency or the size of perforations varies over the surface of said plate.

Claim 7 (new): A reactor for the controlled distribution of reactants comprising:
a plurality of contacting plates each containing perforations or permeable sections stacked adjacent to one another to define reaction channels between first sides of adjacent plates;

means for passing a first fluid into the reaction channels;

a distribution channel located adjacent each reaction channel defined by the second side of the plates for distributing a second fluid through the perforations or permeable sections in the plates and circulating the second fluid as an indirect heat exchange medium;

means for supplying said second fluid to the distribution channels; and

means for collecting a fluid stream containing a reaction product from the reaction channels.